

Patent Claims

1. A substrate (7) provided at its visible side with a finish (1) having a grain texture, with a suede type fine fibre upper side, in particular a grain leather with a polished grain side forming the upper side or a synthetic suede material with an upper side consisting of micro fibres, whereby the finish (1) consists of a stabilised synthetic dispersion and is produced on a backing (2) with a textured surface (3) corresponding to the grain texture and a bonding layer (12) formed of a stabilised synthetic dispersion containing polyurethane, which is applied to the upper side of the substrate (7), characterized thereby that the finish (1) has through-capillaries (11) extending through its full thickness and essentially having the same thickness (d) both in the region of the grain tips (6) as well as in the region of the grain valleys (8), and is bonded by way of a single thin bonding layer (12) to the substrate (7).
- 15 2. Substrate according to claim 1, characterized thereby that the capillaries (11) have different cross-sections.
3. Substrate according to claim 1, characterized thereby that the capillaries (11) are arranged irregularly distributed in the finish (1).
4. Substrate according to claim 1, 2 or 3, characterized thereby that the capillaries (11) have a diameter of between 0,005 mm and 0,05 mm, preferably between 0,009 mm and 0,02 mm.
- 20 5. Substrate according to one of the claims 1 to 4, characterized thereby that the finish (1) has at least 100 capillaries, preferably at least 250 capillaries (11) over an area of 100 cm².

6. Substrate according to one of the claims 1 to 5, characterized thereby that the capillaries (11) extend substantially in a straight line.
7. Substrate according to claim 1, characterized thereby that the bonding layer (12) has interruptions.
- 5 8. Substrate according to claim 1, characterized thereby that the bonding layer (12) has weakened positions (18) of reduced thickness.
9. Substrate according to claim 1, characterized thereby that the bonding layer (12) is arranged only partially on the surface of the substrate (7).
10. Substrate according to claim 1, characterized thereby that the bonding
10 layer (12) has a punctiform, screen or grid, preferably a net-like texture.
11. Substrate according to claim 8, characterized thereby that the bonding layer (12) has a maximum thickness of between 0,01 mm and 0,05 mm and at its weakened position (18) a thickness of between 0,002 and 0,01 mm.
- 15 12. Substrate according to claim 1, characterized thereby that its upper side (14) is formed fibrously, preferably fine fibrously, and that the bonding layer (12) is arranged predominantly in the region of the fibre peaks, so that between these hollow spaces (16), causing a pump effect, are kept free.
- 20 13. Substrate according to claim 1, characterized thereby that the bonding layer (12) consists of a stabilised, polyurethane containing cross-linked synthetic dispersion.
14. Substrate according to claim 13, characterized thereby that the bonding layer (12) consists of a stabilised polyester polyurethane dispersion.

15. Substrate according to claim 13, characterized thereby that the polyurethane containing dispersion has at least partially a crystalline structure or a partial crystalline structure.
16. Substrate according to claim 13, characterized thereby that the synthetic dispersion contains adhesively acting additives, for example soft resins or soft polymers, in particular acrylates.
17. Substrate according to claim 1, characterized thereby that the bonding layer (12) has a foam texture.
18. Substrate according to claim 1, characterized thereby that the bonding layer (12) contains micro hollow spheres with a diameter less than $21\mu\text{m}$.
19. Substrate according to claim 1, characterized thereby that the bonding layer (12) has a weight per unit area of between 20 g/m^2 and 90 g/m^2 .
20. Substrate according to claim 1, characterized thereby that the finish (1) has approximately the same texture and the same density in all cross-sectional regions.
21. Substrate according to claim 1, characterized thereby that the finish (1) consists of a combination of a stabilised, a polyurethane dispersion containing a cross-linking agent with a high softening point, and a stabilised polyurethane dispersion containing a cross-linking agent with preferably crystalline or partial crystalline structure with a low softening point, which dispersion is thermoplastic prior to cross-linking.
22. Substrate according to claim 1, characterized thereby that the finish (1) contains micro hollow spheres forming closed cells with a diameter of less than $21\mu\text{m}$.

23. Substrate according to claim 1, characterized thereby that the grain tips (6) of the finish (1) have microscopic small smooth raises (13).
24. Substrate according to claim 1, characterized thereby that the visible side of the finish (1) has a nubuck texture, out of which fine hairs project, which form microscopical small raises.
25. Substrate according to claim 23 or 24, characterized thereby that the raises (13) have a diameter of between 3 μm and 60 μm , preferably between 5 μm and 15 μm , as well as a maximum length of 110 μm .
26. Substrate according to claim 1, characterized thereby that the finish (1) contains waxes and/or silicones on its visible side.
27. Substrate according to claim 1, characterized thereby that the visible side of the finish (1) is provided with a thin finish.
28. Substrate according to claim 1, characterized thereby that on its side (19) opposite to the upper side provided with the finish, there is provided a strong rhombic synthetic woven or knitted fabric (21) with projecting fibres.
29. Substrate according to claim 28, characterized thereby that the woven or knitted fabric (21) is covered by means of a thin coating (20).
30. Substrate according to claim 1, characterized thereby that it consists of a shaped section.
31. Substrate according to claim 30, characterized thereby that it consists of a shaped section in the flank or belly region of a leather hide and has a finish with a strongly impregnated grain texture.

32. Substrate according to claim 30, characterized thereby that it consists of a shaped section in the core region of a leather hide and has a finish with a flat grain texture.
33. Method for producing a finish (1) provided with backing (7) with a grain texture on its visible side showing a suede type, fine fibrous upper side, whereby initially for forming the finish (1) an aqueous synthetic dispersion of a backing (2) consisting of silicone rubber, which has a surface (3) textured according to the grain texture of the finish (1), is applied and allowed to stabilise into a film, furthermore in the upper side of the substrate (7) a synthetic dispersion forming a bonding layer (12) is applied, and furthermore the substrate (7) with this upper side is placed onto the film and subjected to a pressure and heat treatment, characterized thereby that the synthetic dispersion containing solvent free polyurethane as well as a cross-linking agent is applied in such a manner on a backing (2), having a uniform temperature of less than 105°C, that this synthetic dispersion on touching on the backing (2) is stabilised immediately and, after water evaporation, a uniform thick film having a texture with thickness of less than 0,04 mm is formed.
34. Method according to claim 33, characterized thereby that a synthetic dispersion is used, which consists of a combination of a polyurethane dispersion containing a cross-linking agent with a high softening point and a polyurethane dispersion containing a cross-linking agent with preferably crystalline or partially crystalline structure with a low softening point, which dispersion is thermoplastic prior to cross-linking.
35. Method according to claim 33, characterized thereby that the synthetic dispersion is applied onto the heated backing (2) by means of a fine

spraying fog (25) produced by spraying nozzles (24) having a small diameter.

36. Method according to claim 35, characterized thereby that the spray application takes place without air admixture at a pressure between 40 bar and 100 bar by using spraying nozzles (24) with a diameter of less than 0,04 mm.
37. Method according to claim 33, characterized thereby that the textured surface (3) of the backing (20 is produced by moulding of the grain texture of a natural leather.
- 10 38. Method according to claim 33, characterized thereby that the textured surface (3) of the backing (2) is produced by laser treatment.
39. Method according to claim 38, characterized thereby that the textured surface (3) of the backing (2) produced by laser treatment is multiplied by way of a master.
- 15 40. Method according to claim 33, characterized thereby that a backing (2) consisting of addition cross-linked silicone rubber with a Shore hardness between 25 Shore A and 70 Shore A is used.
41. Method according to claim 33, characterized thereby that a backing (2) of a heat conducting silicone rubber with a density of more than 110 g/cm³, preferably of more than 120 g/cm³, is used.
- 20 42. Method according to claim 41, characterized thereby that a backing (2) in which inorganic fillers are embedded, is used.

43. Method according to claim 33, characterized thereby that a backing (2) is used which is bonded by glueing by means of a metallic support (23), preferably consisting of aluminium.
44. Method according to claim 43, characterized thereby that the support (23) consists of an aluminium sheet with a thickness between 1 mm and 3 mm.
45. Method according to claim 43, characterized thereby that the bonding of the backing (2) to the metallic support (23) takes place by means of a single component silicone glue, in which a thin fleece material of synthetic fibres with a weight per unit area of less than 150 g/m² is embedded.
46. Method according to claim 33, characterized thereby that a synthetic dispersion is applied on the upper side of the substrate (7), which dispersion essentially consists of a polyurethane dispersion with a low softening point and preferably crystalline or partial crystalline structure and a cross-linking agent, and this being such that on touching the upper side of the substrate (7) it rapidly stabilises and a non-continuous bonding layer (12) is formed.
47. Method according to claim 33, characterized thereby that a synthetic dispersion is applied to the upper side of the substrate (7), which dispersion essentially consists of a polyurethane dispersion with a low softening point and preferably crystalline or partial crystalline structure and a cross-linking agent, and this being such that on touching the upper side of the substrate (7) it rapidly stabilises and a bonding layer (12) with weakened positions (18) of the reduced thickness is formed.

48. Method according to claim 33, characterized thereby that the upper side of the substrate (7) provided with the dispersion forming the bonding layer (12) is placed onto the film showing the cross-linking structure located on the backing (2) and being extensively water-free, as soon as
5 such dispersion is gripping-dry but still contains residue moisture.
49. Method according to claim 33, characterized thereby that the film having a net-texture located on the backing (2) with the substrate (7) placed thereon provided with the synthetic dispersion forming the bonding layer (12) is pressed between pressure elastic plates at a temperature of
10 between 60°C and 105°C and a pressure of maximum 5 kg/cm².
50. Method according to claim 49, characterized thereby that, after pressing, the substrate (7) provided with the finish (1) is subjected to a residue drying in suspended condition.